

IWASAKI ET AL. -- 10/626,837

Client/Matter: 008312-0305236

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A perpendicular magnetic recording medium comprising:
a nonmagnetic substrate;
a first perpendicular magnetic recording layer formed on the nonmagnetic substrate, wherein the first perpendicular magnetic recording layer having an easy axis of magnetization in a vertical direction, and containing cobalt, oxygen, and at least one of platinum and chromium; in a larger amount; and
a second perpendicular magnetic recording layer formed on the first perpendicular magnetic recording layer, wherein the second perpendicular magnetic recording layer having an easy axis of magnetization in the vertical direction, and mainly containing a crystalline alloy, and the crystalline alloy contains cobalt, chromium, platinum, and at least one rare earth element selected from the group consisting of yttrium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, thulium, ytterbium, and lutetium, and a transition metal
one of a lubricating layer and a protective layer.
2. (Original) A medium according to claim 1, which further comprises a soft magnetic backing layer between the nonmagnetic substrate and first perpendicular magnetic recording layer.
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Original) A medium according to claim 1, wherein the second perpendicular magnetic recording layer has a thickness of 0.1 (inclusive) to 20 (exclusive) nm.
7. (Original) A medium according to claim 6, wherein the second perpendicular

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magnetic recording layer has a thickness of 0.1 (inclusive) to 15 (inclusive) nm.

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Currently Amended) A medium according to claim 1, wherein the rare earth element is contained in an amount of 0.1 to 20 at% in the second perpendicular magnetic recording layer, and is at least one element selected from the group consisting of yttrium, lanthanum, cerium, samarium, europium, thulium, ytterbium, and lutetium.

12. (Cancelled)

13. (Cancelled)

14. (Original) A medium according to claim 1, wherein the second perpendicular magnetic recording layer contains at least one of tantalum and niobium.

15. (Original) A medium according to claim 1, which further comprises at least one magnetic layer between the first and second perpendicular magnetic recording layers, and/or on the second perpendicular magnetic recording layer.

16. (Original) A medium according to claim 15, which further comprises other first and second perpendicular magnetic recording layers stacked on the second perpendicular magnetic recording layer.

17. (Original) A medium according to claim 1, which further comprises at least one nonmagnetic undercoating between the nonmagnetic substrate and first perpendicular magnetic recording layer.

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18. (Currently Amended) A magnetic recording/reproduction apparatus comprising a perpendicular magnetic recording medium ~~defined in any one of claims 1 to 17~~, a mechanism which supports and rotates the perpendicular magnetic recording medium, a magnetic head having an element to record information on the perpendicular magnetic recording medium and an element to reproduce recorded information, and a carriage assembly which supports the magnetic head to be movable with respect to the perpendicular magnetic recording medium, wherein the perpendicular magnetic recording medium comprises:

a nonmagnetic substrate;

a first perpendicular magnetic recording layer formed on the nonmagnetic substrate, having an easy axis of magnetization in a vertical direction, and containing cobalt, oxygen, and at least one of platinum and chromium;

a second perpendicular magnetic recording layer formed on the first perpendicular magnetic recording layer, having an easy axis of magnetization in the vertical direction, and mainly containing a crystalline alloy, and the crystalline alloy contains cobalt, chromium, platinum, and at least one rare earth element selected from the group consisting of yttrium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, thulium, ytterbium, and lutetium, and
one of a lubricating layer and a protective layer.

19. (New) A magnetic recording/reproduction apparatus according to claim 18, which further comprises a soft magnetic backing layer between the nonmagnetic substrate and first perpendicular magnetic recording layer.

20. (New) A magnetic recording/reproduction apparatus according to claim 18, wherein the second perpendicular magnetic recording layer has a thickness of 0.1 (inclusive) to 20 (exclusive) nm.

21. (New) A magnetic recording/reproduction apparatus according to claim 20, wherein the second perpendicular magnetic recording layer has a thickness of 0.1 (inclusive) to 15 (inclusive) nm.

22. (New) A magnetic recording/reproduction apparatus according to claim 18, wherein the rare earth element is contained in an amount of 0.1 to 20 at% in the second

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perpendicular magnetic recording layer, and is at least one element selected from the group consisting of yttrium, lanthanum, cerium, samarium, europium, thulium, ytterbium, and lutetium.

23. (New) A magnetic recording/reproduction apparatus according to claim 18, wherein the second perpendicular magnetic recording layer contains at least one of tantalum and niobium.

24. (New) A magnetic recording/reproduction apparatus according to claim 18, which further comprises at least one magnetic layer between the first and second perpendicular magnetic recording layers, and/or on the second perpendicular magnetic recording layer.

25. (New) A magnetic recording/reproduction apparatus according to claim 24, which further comprises other first and second perpendicular magnetic recording layers stacked on the second perpendicular magnetic recording layer.

26. (New) A magnetic recording/reproduction apparatus according to claim 18, which further comprises at least one nonmagnetic undercoating between the nonmagnetic substrate and first perpendicular magnetic recording layer.